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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/806,156  | 03/23/2004  | Yoshimasa Araki      | 00862.017965.       | 2173             |
| 5514 7590 11/06/2008<br>FITZPATRICK CELLA HARPER & SCINTO<br>30 ROCKEFELLER PLAZA<br>NEW YORK, NY 10112 |             |                      |                     |                  |
| EXAMINER  |             |                      |                     |                  |
| MRUK, GEOFFREY S  |             |                      |                     |                  |
| ART UNIT  |             | PAPER NUMBER         |                     |                  |
| 2853  |             |                      |                     |                  |
| MAIL DATE   |             | DELIVERY MODE        |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/806,156

**Applicant(s)**

ARAKI ET AL.

**Examiner**

Geoffrey Mruk

**Art Unit**

2853

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,6,7 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6,7, and 12-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, 7, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terasawa (US 4,410,900) in view of Matsui et al (US 5,896,143).

With respect to claim 1, Terasawa discloses a discharging apparatus having a discharge head in which a plurality of discharge nozzles are arranged to discharge liquids supplied from supply ports through discharge ports, comprising:

- a joint member (Fig. 1, element 6A) equal in number to a number of the discharge nozzle (Fig. 1, element 3) and being arranged to face the discharge nozzle, wherein the joint member operates to cover either the supply port or discharge port (Fig. 3A, element 3) when removing the liquid in a discharge nozzle (Column 4, lines 4-6);
- a connecting member (Fig. 3B, element 35) selectively connectable to each of said joint member (Column 3, lines 34-42); and
- a pump (Fig. 2, element 20) for being connected to said connecting member (Fig. 2, element 35) and removing the liquid in the discharge nozzle by applying a pressure difference between the supply port and discharge port of

each discharge nozzle facing one of said joint member selectively connected to said connecting member (Column 3, lines 34-42),

- wherein the pressure difference of the pump is applied to one discharge nozzle by connecting said connecting member to the joint member which has been operated to cover either the supply port or discharge port of the one of the discharge nozzle (Column 3, lines 34-42).

With respect to claim 6, Terasawa discloses the discharge head (Fig. 1A, element 1).

With respect to claim 7, Terasawa discloses the discharge head (Fig. 1A, element 1) discharges the liquid (Column 1, lines 38-40) from the discharge ports (Fig. 1A, element 3).

With respect to claim 12, Terasawa discloses the connecting member (Fig. 3B, element 35) is detachable from said pump (Fig. 2, element 20).

With respect to claim 13, Terasawa discloses an assembly (Fig. 3A, elements 2, 5) that holds said joint member (Fig. 1, element 6A) such that adapter joint of said joint member, which are connected to said connecting member (Fig. 3B, element 35), are arranged on the same level.

With respect to claim 14, Terasawa discloses said connecting member (Fig. 3B, element 35) is selectively connectable to said joint member (Fig. 1, element 6A) by moving said connecting member to the position of said one joint member (Fig. 1A, arrow; Column 2, lines 46-50).

With respect to claim 15, Terasawa discloses each one of said joint member (Fig. 1, element 6A) operates to cover only one discharge nozzle (Fig. 1, element 3).

However, Terasawa fails to disclose:

- a plurality of joint members and a plurality of nozzles,
- the discharge head comprises electrothermal transducers which generate heat energy for liquid discharge,
- the discharge head discharges the liquid from the discharge ports by utilizing film boiling caused by the heat energy applied by the electrothermal transducers.

Matsui discloses a ink jet recording apparatus where:

- a plurality of joint members (Fig. 6, element 41) and a plurality of nozzles (Fig. 6, elements 1A-1D),
- the discharge head (Fig. 6, head) comprises electrothermal transducers (Column 1, lines 63-66) which generate heat energy for liquid discharge,
- the discharge head discharges the liquid from the discharge ports by utilizing film boiling caused by the heat energy (Column 1, lines 63-66) applied by the electrothermal transducers.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the multiple heads disclosed by Matsui in the ink jet recording apparatus of Terasawa. The motivation for doing so would have been "to provide a recording apparatus capable of reducing the movable range for a movable member

when a plurality of recording heads (recording means) are used to record an image as to reduce the size of the apparatus" (Column 7, lines 30-32).

### ***Response to Arguments***

Applicant's arguments, see pages 4-6, filed 25 July 2008, with respect to the rejection(s) of claim(s) 1, 6, 7, and 12-14 under 35 U.S.C 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made over Terasawa (US 4,410,900) in view of Matsui et al (US 5,896,143).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is (571)272-2810. The examiner can normally be reached on Monday-Friday 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. M./  
Examiner, Art Unit 2853  
11/3/2008

/Stephen D Meier/  
Supervisory Patent Examiner, Art Unit 2853